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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/138,926	08/24/98	CESARE	F D-6362

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EXAMINER

NOLAN, S

ART UNIT	PAPER NUMBER
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1772

DATE MAILED:

09/25/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/138,926

Applicant(s)

CESARE et al

Examiner

Sandra Nolan

Group Art Unit

1772



☒ Responsive to communication(s) filed on May 23, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-28 is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-28 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

THE AMENDMENT

1. Applicant's amendment dated May 23, 2000 (paper No. 4) has been entered.

THE CLAIMS

2. Claim 1-28 are pending.

Independent claims 1 and 14 can be summarized as follows:

Claim 1 covers a solid polymer of 4,000 to 30,000 molecular weight made from: about 67 to about 75% ethylene, about 15 to about 40% C₃₋₁₀ alpha-olefin, and about 0 to about 30% non-conjugated polyene.

Claim 14 is down to a composition comprising the polymer of claim 1 in combination with a reinforcer and a high molecular weight (M.W.) polymer.

The dependent claims deal with the chemical nature of the monomers (claims 2, 3, 15 and 16); the amounts of the monomers present (claims 4-7 and 17-20); the properties of the low molecular weight polymers (claims 8, 9, 21 and 22); the reinforcers, (claims 10-13, 23 and 24); the nature of the high M.W. polymer (claims 25 and 26); and molded articles from the composition of claim 14.

REJECTIONS WITHDRAWN

3. The 35 USC 112 rejection of claims 1, 6-14 and 19-28 for lack of enablement, as set forth in paragraph 2 of the February 23, 2000 office action (Paper No. 3) is withdrawn in view of applicant's comments in the response dated May 23, 2000 (Paper No. 4).

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4. The 35 USC 112 rejection of claims 1-28 as indefinite, as set forth in view of claims 1-4 and 8-10 as anticipated by Gros (US 3,884,993) and Allen et al (EPO 0246745B), as set forth in paragraph 4 of Paper No. 3 is withdrawn in view of applicant's amendments to the claim in Paper No. 4.
5. The 35 USC 103 rejection of claims 4-13 as unpatentable over Frances (US 4,514,541) in view of Gros and Allen et al as set forth in paragraph 5 of Paper No. 3, to the claims in Paper No.4 withdrawn in view of applicant's amendments.
6. The 35 USC 103 rejection of claims 14-28 as unpatentable over Bushway et al (US 4,833,191) in view of Frances taken with Gros and Allen et al as set forth in paragraph 6 of Paper No. 3 is withdrawn in view of applicant's amendment to the claims in Paper No. 4.
7. The 35 USC 103 rejection of claims 28 as unpatentable over Bushway et al in view of Frances taken with Gros and Allen et al and further in view of Oyama et al (US 5,556,919) as recited in paragraph 7 of Paper No.3, is withdrawn in view of applicant's comments in Paper No.4.

NEW REJECTIONS

35 USC 112

8. The following is a quotation of 35 USC 112, second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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- MD
9. Claims 10-13 are rejected under 35 USC 112, second paragraph, for failing to particularly point out and distinctly claim that which applicant regards as the invention.

These claims recite that "the polymer" further comprises a reinforcing agent. It might be better to say that a/ the "composition" "comprises" one, since a polymer is a single molecular species and a composition may contain many such species.

35 USC 102

- W/D
10. The following section of 35 USC 102 is applied in this office action:

A person shall be entitled to a patent unless.. (b) the invention was patented or described in a printed publication on this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 103
11. Claims 1-7 and 9 are rejected under 35 USC 102(b) as anticipated by Gros (US 3, 884, 993).

Gros shows the use of EPDM rubbers which contain ethylene and propylene (column 3, lines 22+) in 90:10 to 10:90 ratios and may also contain 0.1 to 10 mil % (column 3, line 27) substitutes nonobviousness (column 3 lines 10+). The EPDM's are solids (see the sentence hazing columns 4 and 5). They may contain fillers (column 16, line 38) and may be blended with other Enhance to improve their patentability (column 5, lines 38-52). The low molecular weight component in Gros is a rubber having a M.W. of less then 15,000 (column 5, lines 9-10).

The needle penetration properties of the Gros EPDM rubbers would be inherent, given the fact that they are made using same retardants in the same amounts as applicant's.

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Consistent with the holding in Titanium Metals Corp of America v. Banner, 227 USPQ 773 (Fed. Cir. 1985), the 66 mil % ethylene disclosed in example 4 of Gros is deemed to read on "about 67%... ethylene". (claim 1, line 4).

35 USC 103

12. The following section of 35 USC 103 is being applied herein below:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negotiated by the manner in which the invention was made.

Krup 1-9
13. Claim 8 is rejected under 35 USC 103(a) as unpatentable over Gros.

Gros is discussed above. He does not teach the viscosity average molecular weight recited in claim 8.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ EPDM's of the type taught by Gros that have sufficiently low molecular weight to facilitate their blending into rubber formulations. Since lower molecular weight molecules weight in the range recited would be expected to be easily dispersed into other elastomers.

NEW *Krup 10*
14. Claims 1-28 are rejected under 35 USC 103 (a) as unpatentability over Frances (US 4,514,541) in view of Gros.

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Frances teaches the making of masterbatches containing 5-75% ethylene/propylene/diene rubber (column 1, line 62) and 10-60% of aramid pulp (abstract). The masterbatch is used to uniformly blend the aramid into compositions containing the same or different rubbers (column 2, lines 3-5). Better physical properties and appearance result (column 6, line 59+) from use of the blends. Frances teaches the use of the final rubber compositions to make hoses and seals (column 9, lines 20-21). He does not teach the low molecular weight EPDM of Claim 1.

Gros is described above

Both Frances and Gros discuss the improvement of elastomeric formulations by mixing EPDM's therewith.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the low molecular weight EPDM rubber of Gros in making the aramid-containing masterbatches of Frances in order to achieve superior physical and appearance properties (per Frances) while enhancing the process ability of the overall composition (per Gros).

The use of lower molecular weight EPDM species (as recited in column 21) would be expected to facilitate the making of the masterbatches, since smaller molecular are more mobile than larger ones. This is the motivation for using Gros' EPDM's.

The use of a low molecular weight polymer having optimal crystallinity and thickness, as measured by a needle penetration test (per claim 22) would be obvious. High crystallinity and low tack would mean that the polymers can be compounded with additives, such as aramid fibers, more easily.

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RESPONSE TO ARGUMENTS


15. Applicant's arguments concerning claims 1-28, submitted in Paper No. 4, have been carefully considered. However, they are rendered moot by the application of new grounds of rejection supra.

CONCLUSION

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Sandra M. Nolan, whose telephone number is (703) 308-9545. The examiner can normally be reached on Monday through Thursday 7:00 am to 4:00 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ellis P. Robinson, can be reached on (703) 308-2364. The fax number for the organization where this application is assigned is (703) 305-5408.

The telephone number for the receptionist is (703) 308-0661.


Ellis Robinson
Supervisory Patent Examiner
Technology Center 1700

September 22, 2000

SMN/aperkins